

- 22 -

WHAT IS CLAIMED IS:

1. An apparatus for use in repairing a leak in a plastic pipe, the apparatus comprising:

5 a body constructed of a substantially rigid material and having an upper surface and a lower surface, the lower surface adapted to be positionable about at least a leak portion of a plastic pipe; and  
10 an electrofusion element disposed about the lower surface of the body operable to sealably couple with the plastic pipe to encapsulate the leak.

2. The apparatus of claim 1 wherein the  
15 electrofusion element disposed about the lower surface of the body substantially defines a perimeter positionable adjacent the leak portion of the plastic pipe to sealably couple with the plastic pipe to encapsulate the leak

20 3. The apparatus of claim 2 wherein the apparatus further includes a terminal electrically connected to the electrofusion element operable to energize the electrofusion element.

25 4. The apparatus of claim 3 wherein the apparatus further includes a fastener operable to secure the apparatus to the plastic pipe.

30 5. The apparatus of claim 4 wherein the body is a substantially cylindrical body provided with at least one sidewall extending from the body such that the lower surface is positioned on one end of the sidewall.

- 23 -

6. The apparatus of claim 5 wherein the sidewall defines a cavity in the substantially cylindrical body, the cavity of the substantially cylindrical body in communication with the leak portion of the plastic pipe.

7. The apparatus of claim 6 wherein the plastic pipe is a polyethylene pipe.

8. The apparatus of claim 7 wherein the substantially cylindrical body is provided with a passageway defining an opening extending through the substantially cylindrical body, the passageway in communication with the cavity of the substantially cylindrical body.

9. The apparatus of claim 4 wherein the body is a substantially rectangular body provided with a plurality of sidewalls extending from the body such that the lower surface is positioned on one end of the sidewall.

10. The apparatus of claim 9 wherein the plurality of sidewalls defines a cavity in the substantially rectangular body, the cavity of the substantially rectangular body in communication with the leak portion of the plastic pipe.

11. The apparatus of claim 10 wherein the plastic pipe is a polyethylene pipe.

12. The apparatus of claim 11 wherein the substantially rectangular body is provided with a passageway defining an opening extending through the substantially rectangular body, the passageway in communication with the cavity of the substantially rectangular body.

- 24 -

13. An apparatus for use in repairing a leak in a plastic pipe, the apparatus comprising:

a first portion having a first pipe engaging electrofusion surface, a second pipe engaging electrofusion surface, a first contact surface, and a second contact surface; and

a second portion having a first pipe engaging electrofusion surface, a second pipe engaging electrofusion surface, a first contact surface, and a second contact surface wherein the first portion and the second portion are operable to encapsulate the leak, the first pipe engaging electrofusion surfaces of the first and second portions are operable to couple around the pipe to form a first seal, the second pipe engaging electrofusion surfaces of the first and second portions are operable to couple around the pipe to form a second seal, the first contact surfaces of the first and second portions are operable to sealably couple with one another, and the second contact surfaces of the first and second portions are operable to sealably couple with one another.

14. The apparatus of claim 13 wherein the apparatus further includes a terminal attached to the first portion, the terminal operable to energize the first and second pipe engaging electrofusion surfaces of the first and second portions.

- 25 -

15. The apparatus of claim 14 wherein the first portion further includes a first electrical connector attached thereto connectable to a second electrical connector attached to the second portion operable to communicate electricity from the terminal to the first and second pipe engaging electrofusion surfaces of the second portion.

16. The apparatus of claim 13 wherein the apparatus further includes a first and a second terminal, the first terminal attached to the first portion and operable to energize the first and second pipe engaging electrofusion surfaces of the first portion, the second terminal attached to at least one of the first and second portions and operable to energize the first and second pipe engaging electrofusion surfaces of the second portion.

17. The apparatus of claim 13 wherein the first and second contact surfaces of the first portion are further provided with electrofusion elements operable to sealably couple the first contact surfaces of the first and second portions to one another and operable to sealably couple the second contact surfaces of the first and second portions to one another.

18. The apparatus of claim 13 wherein the first and second contact surfaces of the first and second portions are further provided with electrofusion elements operable to sealably couple the first contact surfaces of the first and second portions to one another and operable to sealably couple the second contact surfaces of the first and second portions to one another.

- 26 -

19. The apparatus of claim 13 wherein the apparatus further includes a fastener operable to secure the first and second portions to one another.

5           20. The apparatus of claim 19 wherein the first and second pipe engaging electrofusion surfaces and the first and second contact surfaces of the first portion define a sidewall providing a cavity within the first portion such that the cavity communicates with a leak portion of the  
10 plastic pipe.

15           21. The apparatus of claim 20 wherein the first portion is provided with a passageway defining an opening extending therethrough the first portion, the passageway in communication with the cavity of the first portion.

20           22. The apparatus of claim 20 wherein the the first and second pipe engaging electrofusion surfaces and the first and second contact surfaces of the second portion define a sidewall providing a cavity within the second portion such that the cavity communicates with a leak portion of the plastic pipe.

25           23. The apparatus of claim 22 wherein the plastic pipe is a polyethylene pipe.

- 27 -

24. A method for sealing a leak in a plastic pipe comprising:

providing an apparatus comprising:

a first portion having a first pipe engaging electrofusion surface, a second pipe engaging electrofusion surface, a first contact surface, and a second contact surface; and

a second portion having a first pipe engaging electrofusion surface, a second pipe engaging electrofusion surface, a first contact surface, and a second contact surface wherein the first portion and the second portion are operable to encapsulate the leak, the first pipe engaging electrofusion surfaces of the first and second portions are operable to couple around the pipe to form a first seal, the second pipe engaging electrofusion surfaces of the first and second portions are operable to couple around the pipe to form a second seal, the first contact surfaces of the first and second portions are operable to sealably couple with one another, and the second contact surfaces of the first and second portions are operable to sealably couple with one another;

encapsulating the leak in the plastic pipe with the a first portion and a second portion; electrofusing the first portion and the second portion together at the first contact surfaces;

- 28 -

electrofusing the first portion and the second  
portion together at the second contact  
surfaces;

electrofusing the first and second pipe  
engaging electrofusion surfaces of the  
first and second portions; and  
electrofusing the second pipe engaging  
electrofusion surfaces of the first and  
second portions.

25. The method as defined by claim 24 wherein the  
apparatus provided further comprises at least one  
terminal connected to the apparatus electrically operable  
to energize first and second pipe engaging electrofusion  
surfaces of the first and second portions, and wherein  
the method further includes energizing the terminal on  
the apparatus to electrofuse the first and second pipe  
engaging electrofusion surfaces of the first and second  
portions.

26. The method as defined by claim 25 wherein the  
apparatus further includes a fastener on at least one of  
the first and second portions operable to secure the  
first portion to the second portion, and wherein the  
method further includes fastening the fastener to secure  
the first portion to the second portion about the plastic  
pipe.

- 29 -

27. The method of claim 26 wherein the apparatus further includes an opening in at least one of the first and second portions communicating with the leak in the plastic pipe, and wherein the method further comprises:  
5                   testing the leak in the plastic pipe via  
                    the opening in the apparatus; and  
                    sealably covering the opening in the  
                    apparatus.